independent.

In the Office Action, the Examiner rejected claim 1 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. Re. 36,220 ("Mori"). This rejection is rendered moot by the present amendment, as the Examiner concedes that claim 6 is not anticipated by Mori.

Claims 2 to 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mori. Claims 7 to 10 are rejected as being unpatentable over Mori in view of U.S. Patent No. 5,382,687 ("Morishita"). These rejections are respectfully traversed.

Mori discloses a method for producing a "magnetic medium which comprises a non-magnetic support, two … coating layers provided on the support, an upper layer of the coating layers being a magnetic layer … and a lower layer of the coating layers being a non-magnetic layer …" (column 3, lines 32 to 38). However, it is important to note that Mori fails to disclose or suggest the presently-claimed step of curing the non-magnetic layer.

Morishita discloses an electrophotographic member that forms a photoconductive layer on an electroconductive support (column 26, lines 45 to 52). Alternatively, Morishita teaches that an undercoating layer is formed between the electroconductive support and the photoconductive layer (column 28, lines 57 to 59). Further, Morishita discloses that the undercoating layer comprises a thermosetting resin and a curing agent (column 29, line 30). Consequently, Morishita arguably teaches that a curing process is performed on an undercoating layer. However, Morishita is directed to the electrophotographic member for such devices as copying machine (class G07C, International Classification). In contrast, the present invention is directed to the magnetic recording medium (class G11B, International Classification). The major significance of the differing technology is that the nonmagnetic layer described in Morishita (col. 29, lines 1 to 45) is not used as an underlayer for a magnetic layer. Rather, Morishita teaches that the undercoating layer is a support for a photoconductive layer in an electrophotographic member for such devices as copying machines. The underlayer described by Morishita is cured in order to improve solvent resistance and film strength of the in order to prevent damage to the undercoating layer when it is exposed to solvent when the photoconductive layer is formed thereon. While the present invention involves curing the nonmagnetic layer for protective reasons, there is no teaching or suggestion that the same types of solvents that Morishita

discloses as part of the photoconductive layer solution would be present in the magnetic material solution of the present invention. Consequently, a person of ordinary skill in the art would not see the Morishita curing process as pertinent to the technology of the current invention.

"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1420 (Fed. Cir. 1990)." M.P.E.P. § 2143.01. Because the person of ordinary skill in the pertinent art would not find a suggestion that the curing process of Morishita would be effective or desirable in the Mori process, such a person would not find motivation to reach the present invention in the cited prior art. Consequently, the rejections of claims 1 to 5, and 7 to 10 should be withdrawn.

The Examiner does not make any comments regarding the motivation to combine the references in the Advisory Action, but instead cites a passage in Mori (col. 7, lines 30 to 35) where hardeners are disclosed, and asserts that these hardeners amount to curing agents, the use of which would read on the curing step of claim 1 as amended in the November 12, 2002 response.

Applicants respectfully traverse for the reasons previously made of record, and for two additional reasons. First, the Examiner has not proven that hardeners are the same as curing agents. Second, claim 1 recites that the curing step is performed on the non-magnetic layer after the non-magnetic layer is dried. Mori's mere statement that hardeners may be present in a non-magnetic layer does not suggest that a separate hardening or curing step is performed after the non-magnetic layer is dried. Therefore, the Examiner has not established a prima facie case of obviousness at this point. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j).

New independent claims 11 and 16 include the feature that the non-magnetic layer is cured by radiation. This feature is based on the description that "the radiation curing type binder resin is used or the binder resin of the lower non-magnetic layer, the lower non-magnetic layer coating material is applied, dried, and smoothed; then, radiation is irradiated" to cure the non-magnetic layer. Page 7, line 23 to page 8, line 1.

In contrast, Mori discloses hardeners (col. 8, lines 33 to 42) which are polyisocianate types, which are thermosetting type hardeners. The present specification clearly teaches that "since the use of a thermosetting resin requires a thermosetting process after applying the non-magnetic layer, it is not preferable in view of problems such as deformation of a raw roll due to thermosetting (page 7, lines 11 to 15)." Thus, the present specification supports the reason for the desirable use of radiation curing with the description about the disadvantage of thermosetting. Therefore, new claims 11 and 16 are believed to be patentable over Mori and the other cited prior art.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

Dated: March 10, 2003

Respectfully submitted,

By _____
David K. Benson
Registration No.: 42,314
(703) 955-3750
Attorneys for Applicant

Version With Markings to Show Changes Made

7. (amended) A process for producing a magnetic recording medium which comprises:

applying a non-magnetic layer coating material onto a non-magnetic support; [and]

drying the coating material to form a non-magnetic layer;

curing the non-magnetic layer <u>after drying the non-magnetic layer coating material;</u>[,] and [then]

applying a magnetic layer coating material more excessively than an intended magnetic layer-wet thickness onto the non-magnetic layer by using a die nozzle coating followed by scraping excess amounts of the magnetic layer coating material to the intended magnetic layer-wet thickness by means of a bar to form a magnetic coating layer.

11. (new) A process for producing a magnetic recording medium, which comprises:

applying a non-magnetic layer coating material onto a non-magnetic support;

drying the coating material to form a non-magnetic layer;

radiation-curing the non-magnetic layer after drying the non-magnetic layer coating material; and

applying a magnetic layer coating material more excessively than an intended magnetic layer-wet thickness onto the non-magnetic layer by using a die nozzle coating followed by scraping excess amounts of the magnetic layer coating material to the intended magnetic layer-wet thickness by means of a wire bar or a non-wire coating bar by which a channel is formed thereon to form a magnetic coating layer.

12. (new) The process for producing the magnetic recording medium according to claim 11, wherein 2 to 20 times as large amounts of the magnetic layer coating material as the intended magnetic layer-wet thickness is applied onto the non-magnetic layer by using the die nozzle coating.

13. (new) The process for producing the magnetic recording medium according to claim 11, wherein a solid component concentration of the magnetic layer coating material is 10% by weight or less.

14. (new) The process for producing the magnetic recording medium according to claim 13, which comprises dispersing the magnetic layer coating material again by means of an online dispersion apparatus immediately before applying the magnetic layer coating material onto the non-magnetic layer.

15. (new) The process for producing the magnetic recording medium according to claim 11, wherein the magnetic recording medium has the magnetic layer with a dry thickness of 0.02 to 0.08 μm.

16. (new) A process for producing a magnetic recording medium, which comprises:

applying a non-magnetic layer coating material onto a non-magnetic support;

drying the coating material to form a non-magnetic layer;

radiation-curing the non-magnetic layer after drying the non-magnetic layer coating material; and

applying a magnetic layer coating material more excessively than an intended magnetic layer-wet thickness onto the non-magnetic layer by using a die nozzle coating followed by scraping excess amounts of the magnetic layer coating material to the intended magnetic layer-wet thickness by means of a bar to form a magnetic coating layer.

17. (new) The process for producing the magnetic recording medium according to claim 16, wherein 2 to 20 times as large amounts of the magnetic layer coating material as the intended magnetic layer-wet thickness is applied onto the non-magnetic layer by using the die nozzle coating.

18. (new) The process for producing the magnetic recording medium according to claim 16, wherein a solid component concentration of the magnetic layer coating material is 10% by weight or less.

19. (new) The process for producing the magnetic recording medium according to claim 18, which comprises dispersing the magnetic layer coating material again by means of an online dispersion apparatus immediately before applying the magnetic layer coating material onto the non-magnetic layer.